



Third Generation Photovoltaic Solar Cells : Prediction and Improvement of Metal-free Organic Dyes Properties

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Because solar energy is the most abundant renewable energy resource, the dear connection between human activity and the global warming has strengthened the interest in the photovoltaic field. Currently, Dye-Sensitized Solar Cells (DSSCs) represent a promising low-cost technology for harnessing this energy source. This technology provide economically credible alternative to the present well-known *p-n junction* or *thin film* photovoltaic devices. In this presentation, we review the basic concepts of DSSCs and we specifically discuss our recent theoretical research aimed at optimizing the properties of a DSSC, as well as several of the controversial and emerging issues in this field.

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